

ONTARIO MINISTRY OF ENVIRONMENT



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OPERATING SUMMARY

TOWN OF

BLENHEIM

WATER TREATMENT PLANT

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Blenheim : water treatment plant.
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Ontario

MINISTRY OF THE ENVIRONMENT

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DEPUTY MINISTER

E. Biggs

ASSISTANT DEPUTY MINISTER

REGIONAL OPERATIONS

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BLENHEIM

WATER TREATMENT PLANT

MINISTRY OF THE ENVIRONMENT

1974 ANNUAL OPERATING SUMMARY

prepared by
Plant Performance Unit
TECHNICAL SERVICES BRANCH
T. Cross, Director



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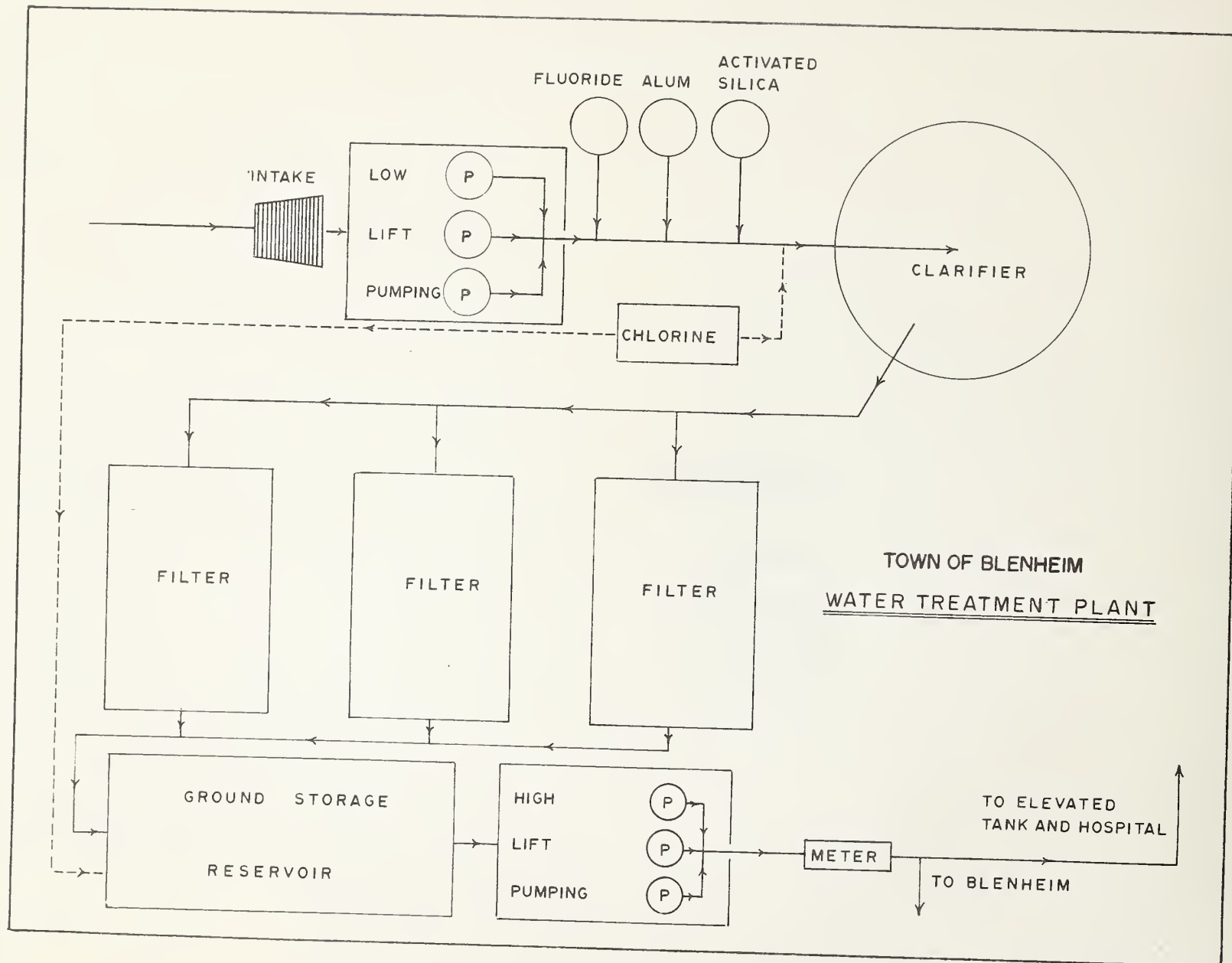
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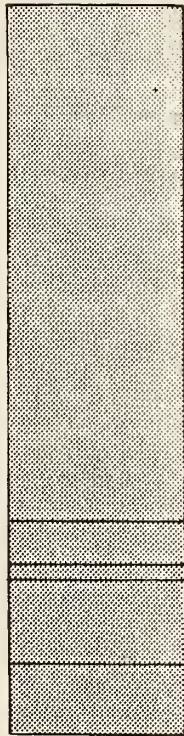
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ANNUAL COSTS

1974 OPERATING COSTS



- SALARIES & WAGES 70 %
- EMPLOYEE BENEFITS 6 %
- TRANSPORTATION & COMMUNICATIONS 2 %
- SERVICES 12 %
- SUPPLIES & EQUIPMENT 10 %
- ACQUISITION/CONSTRUCTION OF PHYSICAL ASSETS
- TRANSFER PAYMENTS
- OTHER TRANSACTIONS

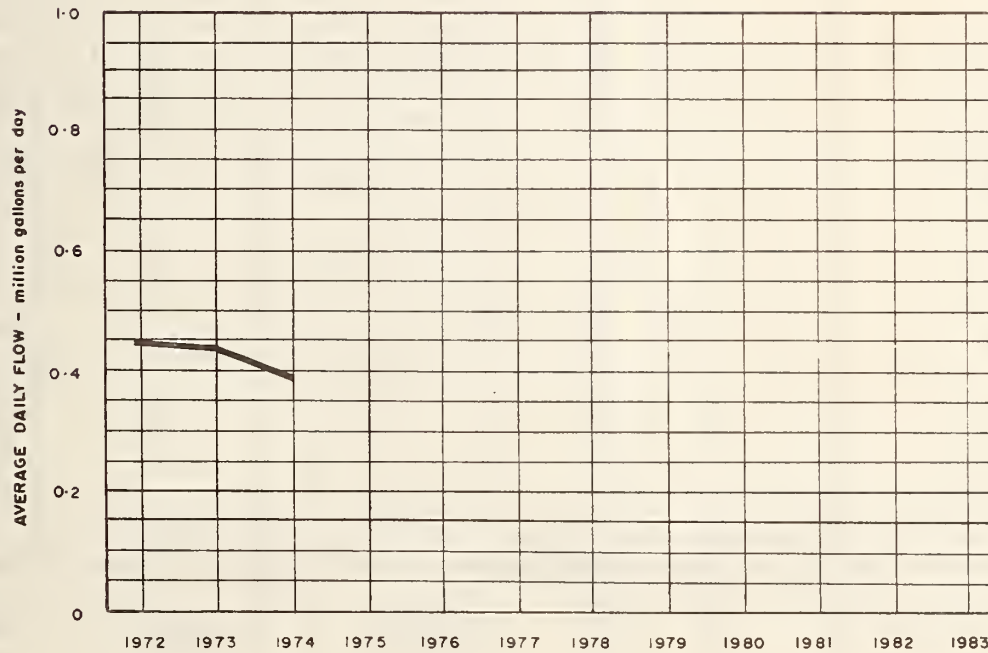
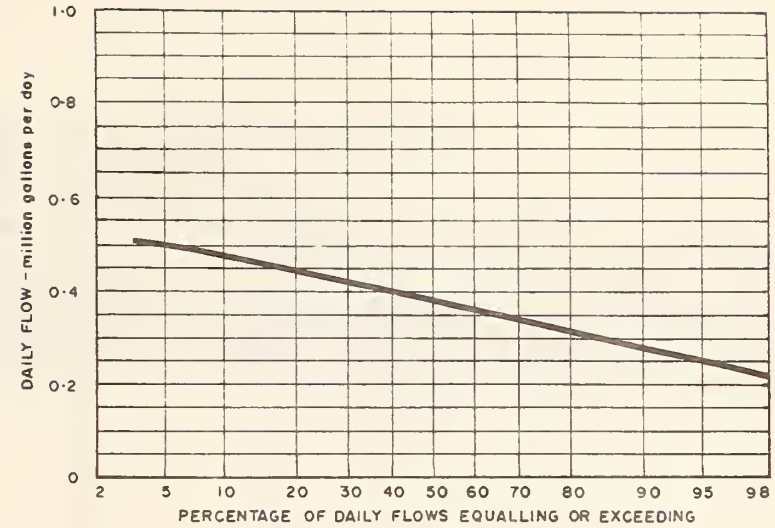
YEARLY OPERATING COSTS

YEAR	WATER TREATED in million gallons	TOTAL OPERATING COSTS	UNIT COSTS
			cents /1000 gal.
1974	142	\$ 78170	55

OPERATING EXPENDITURES

Regular Staff	\$ 46817	\$
Casual (Unclassified) Staff	7307	
TOTAL SALARIES AND WAGES		54124
TOTAL EMPLOYEE BENEFITS		5012
TOTAL TRANSPORTATION AND COMMUNICATIONS		1548
Insurance	92	
Sludge Haulage		
Repairs and Maintenance	9039	
Other Services	334	
TOTAL SERVICES		9465
Machinery and Equipment	1691	
Chemicals	3501	
Utilities	1328	
Other Supplies and Equipment	1501	
TOTAL SUPPLIES AND EQUIPMENT		8021
TOTAL AQUISITION/CONSTRUCTION OF PHYSICAL ASSETS		
TOTAL TRANSFER PAYMENTS		
OTHER TRANSACTIONS		
GRAND TOTAL	GRAND TOTAL	\$ 78170

PROCESS DATA FLOWS



DESIGN CAPACITY : 1.0 MGD

PLANT PERFORMANCE

MONTH	FLOWS				RAW WATER		TREATED WATER					
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App. units	TURBIDITY		COLOUR		TEMPERATURE	
							AVERAGE FTU	MAXIMUM FTU	AVERAGE App. units	MAXIMUM App. units	AVERAGE ° F	MAXIMUM ° F
JAN	12.06	.39	.46	.86	11	6	.6	.8	<5	<5	35	36
FEB	10.11	.36	.49	.87	9	5	.7	1.8	<5	<5	34	36
MAR	11.13	.36	.54	.84	24	6	.7	1.2	<5	<5	35	37
APR	10.85	.36	.47	.97	27	5	1.1	2.2	<5	<5	41	46
MAY	12.39	.40	.60	1.04	8	4	.3	.4	<5	<5	49	54
JUNE	11.07	.37	.49	1.37	6	5	.9	2.4	<5	<5	56	63
JULY	13.36	.43	.62	1.35	4	9	.9	2.9	<5	<5	64	72
AUG	12.01	.39	.49	1.15	6	10	.6	1.3	<5	<5	70	74
SEPT	12.36	.41	.52	1.00	7	5	.6	1.6	<5	<5	67	73
OCT	12.30	.40	.52	1.00	7	6	.3	.4	<5	<5	61	64
NOV	12.04	.40	.47	.94	12	11	.4	.6	<5	<5	51	56
DEC	11.89	.38	.49	1.20	26	40	1.0	2.7	<5	<5	40	45
TOTAL	141.56											
AVG.		.39	MAXIMUM .62	MAXIMUM 1.37	12	9	.7	MAXIMUM 2.9	<5	MAXIMUM <5	50	MAXIMUM 74

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN	3	1	1	0	0	5	0	9	0	182	1.5		.7
FEB	4	0	0	0	0	4	0	8	0	156	1.3		.6
MAR	1	3	0	0	0	4	0	8	0	162	1.3		.6
APR	5	0	0	0	0	5	0	10	0	177	1.4		.6
MAY	4	0	0	0	0	4	0	8	0	196	1.4		.5
JUNE	4	0	0	0	0	4	0	8	0	248	1.7		.5
JULY	3	2	0	0	0	5	0	10	0	311	1.9		.5
AUG	2	0	0	0	1	3	0	6	0	365	2.6		.5
SEPT	4	0	1	0	0	5	0	10	0	381	2.7		.6
OCT	1	1	2	0	0	4	0	8	0	315	2.3		.6
NOV	3	1	0	0	0	4	0	8	0	254	2.0		.6
DEC	3	0	1	0	0	4	0	8	0	248	2.0		.8
TOTAL	37	8	5	0	1	51	0	101	0	2995			
AVG.	1 (NOTE - Average shown is the GEOMETRIC MEAN)									7 pounds per day	1.8		.6

TREATMENT DATA

MONTH	CHEMICALS USED						FILTRATION			
	A L U M		SODIUM SILICATE		FLUOSILICIC ACID		FILTER OPERATION			ALGAE RAW WATER ASU/ml
	AMOUNT USED gallons	DOSAGE mg/l	AMOUNT USED pounds	DOSAGE mg/l	AMOUNT USED pounds	DOSAGE mg/l	BACKWASH WATER mil gal	AVERAGE RUN hours	MINIMUM RUN hours	
JAN	791	43	947	8	101	.8	.600	9.8	8.5	
FEB	662	42	859	9	215	2.1	.600	10.0	8.0	
MAR	965	56	961	9	242	2.2	.625	10.0	6.5	
APR	935	56	1173	11	145	1.3	.650	13.0	4.7	
MAY	405	21	492	4	150	1.2	.600	10.9	8.0	
JUNE	646	38	892	8	137	1.2	.759	12.6	9.0	
JULY	736	36	1130	9	103	1.3	.665	14.0	10.5	
AUG	692	37	1050	9	182	1.3	.635	13.0	10.0	
SEPT	644	34	1038	8	143	1.2	.450	13.3	10.0	
OCT	634	34	1032	8	161	1.3	.375	12.8	10.0	
NOV	671	36	934	8	138	1.1	.410	12.0	9.0	
DEC	1004	55	969	8	137	1.1	.500	11.6	8.5	
TOTAL	8785		11485		1754		6.869			
AVG	732	41	957	8	146	1.3		11.9	4.7	

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER				DESIRABLE STANDARDS
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	
HARDNESS in mg/l as CaCO_3	49	132	158	118	47	133	152	124	80 - 100
ALKALINITY in mg/l as CaCO_3	49	92	106	83	48	78	89	66	30 - 100
IRON in mg/l Fe	49	.60	3.20	<.05	48	<.05	.15	<.05	Less than 0.3
CHLORIDE in mg/l Cl^-	49	21	28	17	48	22	32	19	Less than 250
pH in pH units	49	8.0	8.4	7.0	48	7.4	8.0	6.9	7.0 - 8.5
FLUORIDE in mg/l F^-	46	0.1	.50	0.0	46	.8	1.4	0.1	Less than 1.2

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BLENHEIM WATER TREATMENT PLANT.
(ANNUAL OPERATING SUMMARY).

1974 TD227/B54/B54/1974/MOE

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